

TITLE: **Biasing Yield or Hydraulic Conductivity Testing to Areas of Highest Yield or Hydraulic Conductivity**

DATE EFFECTIVE: January 2003

HISTORY: Update of VA30007.03.008 - Revision was necessary to reflect changes in rule citations that became effective in March 2009.

KEYWORDS: Yield, classification, spatial variation, heterogeneity

RULE/ AUTHORITY: OAC 3945-300-07(E)(5)(b)(i), (F)(6)(b), and (F)(8)(b)

QUESTION: How should the requirement to bias yield testing locations to the area of highest yield be interpreted and does hydraulic conductivity testing have to be biased to areas of highest hydraulic conductivity?

ANSWER: When utilizing yield to define or classify ground water, OAC 3745-300-07(F)(8)(b) requires that the volunteer bias the yield sampling locations to areas of highest yield. A volunteer is required, at a minimum, to test yields in the highest yielding area. This does not mean that all tests have to be in the area of highest yield, only some of them. However, in some case, a significant amount of investigation might be required to simply identify the area of highest yield. All of the available data should be used to arrive at a yield that is generally representative of the ground water zone. The volunteer also has the option of limiting the testing locations to the area of highest yield, and using the resulting yields to classify the ground water. To do this, it is recommended that the volunteer limit the yield testing to areas where boring data indicate the saturated zone is the thickest and the coarsest grained.

The volunteer is not required to bias hydraulic conductivity testing to areas of highest hydraulic conductivity. Instead, OAC 3745-300-07(E)(5)(b)(i) and (F)(6)(b) require the volunteer to conduct testing sufficient in number to represent the hydraulic conductivity of the saturated zone and to have accounted for spatial variations (i.e., heterogeneity). Note that hydraulic conductivity testing is not used to classify the ground water, but it can be used to determine whether a saturated zone falls below the minimum criteria for ground water [refer to OAC 3745-300-01 and 3745-300-07(F)(6)(b)].

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